CURRICULUM M.Sc. COMPUTER SCIENCE
myStudies, 120 ECTS

iu
INTERNATIONAL
UNIVERSITY OF
APPLIED SCIENCES

Month	Model 1: Programme Start October			Model 2: Programme Start April		
	Courses			Courses		
Oct	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection			
Nov	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection			
Dec	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection			
Jan	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics			
Feb	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics			
Mar	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics			
Apr	Data Science	Big Data Technologies	Programming with Python	Data Science	Big Data Technologies	Programming with Python
May	Data Science	Big Data Technologies	Programming with Python	Data Science	Big Data Technologies	Programming with Python
Jun	Semester Break					
Jul	Software Engineering: Software Processes	Project: Software Engineering	Networks and Distributed Systems	Software Engineering: Software Processes	Project: Software Engineering	Networks and Distributed Systems
Aug	Software Engineering: Software Processes	Project: Software Engineering	Networks and Distributed Systems	Software Engineering: Software Processes	Project: Software Engineering	Networks and Distributed Systems
Sep	Semester Break					
Oct	Seminar: Current Topics in Computer Science		Project: Computer Science Project	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection
Nov	Seminar: Current Topics in Computer Science		Project: Computer Science Project	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection
Dec	Seminar: Current Topics in Computer Science		Project: Computer Science Project	Advanced Mathematics	Algorithmics	Cyber Security and Data Protection
Jan	Elective A Course a		Elective A Course b	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics
Feb	Elective A Course a		Elective A Course b	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics
Mar	Elective A Course a		Elective A Course b	Seminar: Computer Science and Society	Artificial Intelligence	Advanced Statistics
Apr	Elective B Course c		Elective B Course d	Seminar: Current Topics in Computer Science		Project: Computer Science Project
May	Elective B Course c		Elective B Course d	Seminar: Current Topics in Computer Science		Project: Computer Science Project
Jun	Semester Break					
Jul	Master Thesis			Elective A Course a		Elective A Course b
Aug	Master Thesis			Elective A Course a		Elective A Course b
Sep	Semester Break					
Oct				Elective B Course c		Elective B Course d
Nov				Elective B Course c		Elective B Course d
Dec				Elective B Course c		Elective B Course d
Jan				Master Thesis		
Feb				Master Thesis		
Mar				Master Thesis		

Here you see the order in which you study your courses in presence depending on your personal study start in October or April. Each semester consists of two blocks. In each block, you attend classes on campus for usually three courses to deepen the content in direct exchange with your fellow students and lecturers. You have semester breaks in June and September. Attending the courses on campus is mandatory and will be verified due to Visa regulations (not valid for DACH students).

Each block concludes with a two-week exam preparation phase. You can defer those exams to a later date that you do not want to take during this period. This way, your exam phases are always spread evenly over the year. Exceptions to this are courses that count as admission requirements for other courses.

Elective A*

Advanced Cyber Security and Cryptology
  a) Seminar: Advanced Cyber Security
  b) Cryptology
Blockchain and Quantum Computing
  a) Blockchain
  b) Quantum Computing
IT Governance and Service Management
  a) IT Service Management
  b) IT Governance and Compliance
UI/UX Expert
  a) User Interface and Experience
  b) Project: Human Computer Interaction

Elective B*

Business Analyst
  c) Business Intelligence I
  d) Project: Business Intelligence
Data Engineer
  c) Data Engineering
  d) Project: Data Engineering
Machine Learning and Deep Learning
  c) Machine Learning
  d) Deep Learning
Technical Project Lead
  c) IT Project Management
  d) Project: Technical Project Planning
Use Case Identification and Evaluation for Analytical Applications
  c) Use Case and Evaluation
  d) Project: Data Science Use Case
*Internship***

* Electives: Choose one module from the Elective A and one module from the Elective B.

Note: Those elective modules where the minimum number of participants is not reached will only be offered online (distance learning). However, IU ensures that there are always electives on campus.

** The elective "Internship" is offered for the first time in October 2022.
Please note: By choosing the elective "Internship" you cannot qualify for the dual degree with LSBU.

Attention: Attendance times may vary slightly depending on public holidays and the federal state holidays the campus is located in.

Course Information

Module	Course Code	Course	ECTS	Type of Exam
Advanced Mathematics	DLMDSAM01	Advanced Mathematics	5	Exam
Algorithmics	DLMCSA01	Algorithmics	5	Exam
Cyber Security and Data Protection	DLMCSITSDP01	Cyber Security and Data Protection	5	Oral Assignment
Seminar: Computer Science and Society	DLMCSSCSAS01	Seminar: Computer Science and Society	5	Research Essay
Artificial Intelligence	DLMAIAI01	Artificial Intelligence	5	Exam
Advanced Statistics	DLMDSAS01	Advanced Statistics	5	Advanced Workbook
Data Science	DLMBDSA01	Data Science	5	Exam
Big Data Technologies	DLMDSBDT01	Big Data Technologies	5	Oral Assignment
Programming with Python	DLMDSPWP01	Programming with Python	5	Written Assignment
Software Engineering: Software Processes	DLMCSSESP01	Software Engineering: Software Processes	5	Oral Assignment
Project: Software Engineering	DLMCSPSE01	Project: Software Engineering	5	Portfolio
Networks and Distributed Systems	DLMCSNDS01	Networks and Distributed Systems	5	Exam
Seminar: Current Topics in Computer Science	DLMCSSCTCS01	Seminar: Current Topics in Computer Science	5	Research Essay
Project: Computer Science Project	DLMCSPCSP01	Project: Computer Science Project	5	Portfolio
ELECTIVE A*		e.g. Advanced Cyber Security and Cryptrology	10	
ELECTIVE B*		e.g. Data Engineer	10	
Master Thesis		Master Thesis	27	Master Thesis
		Thesis Defense	3	Presentation: Colloquium